MODIS Technical Team Meeting
Thursday, May 15, 2003
Building 33, Room E108

Vince Salomonson chaired the meeting. In attendance were Shaida Johnston, Bruce Guenther, Steve Kempler, Mike Teague, Skip Reber, Wayne Esaias, Eric Vermote, Jack Xiong, Robert Barnes, Ed Masuoka, and Barbara Conboy, with Yolanda Harvey taking the minutes.

1.0 Upcoming events

- IGARSS 2003, July 21-25, 2003, Toulouse, France (abstracts deadline past). http://www.igarss03.com/
- 10th International Symposium on Remote Sensing by The International Society for Optical Engineering (SPIE). September 8-12, 2003, Barcelona, Spain (abstracts deadline past). http://www.spie.org/info/rs

2.0 Meeting Minutes

2.1 General Discussion

Salomonson noted that the MODIS Science Team Leader proposal has been completed and submitted to NASA HQ. He further described the four general thrusts for the collective efforts of the Team that he proposed in his Team Leader proposal: updating the ATBDs; facilitating MODIS data product acquisition and use via the DAACs, ESIPs, etc.; encouraging data assimilation into Earth science models; and producing data sets of climate data record (CDR) quality.

Salomonson introduced the topic of reprocessing. He noted that Johnston has put together a chart of ideas for future reprocessing efforts. She proposes three more collections for Terra (collections 5-7), and four for Aqua (5-8). Reber asked if the two instrument's reprocessing efforts would be combined, and Johnston said that after Collection 5 it would be possible to combine the efforts. The data would still be separated by instrument (the data wouldn't be combined), but the reprocessings could be run concurrently. Teague noted that there would soon be an Aqua reprocessing, then after that Terra and Aqua would reprocess together. Johnston added that most of the actual combined Terra and Aqua products are concentrated in the Oceans discipline. Salomonson concluded that we are going to finish the Terra Collection 4 reprocessing, then do an Aqua reprocessing, and after that do a Collection 5 Terra reprocessing. Johnston said that she has been talking to the disciplines, and found that not all of them might need to reprocess. If Land has no improvements, we might not have to do a Collection 5 reprocessing. Vermote said that he met yesterday (May 14, 2003) with a number of Land people, and they discussed Collection 5. It's not that Land has nothing to improve, but rather that they aren't ready to start reprocessing. Vermote emphasized that they want to implement and validate their changes before starting reprocessing, and want to make sure that they are making substantial improvements. They did however agree on a need for an Aqua reprocessing. . Esaias said that the Oceans group agrees with Vermote about improvements; Oceans wants to process for as long as possible before reprocessing so that they have a large data set to work with. They also want to make substantial improvements. Johnston said that waiting to reprocess could result in

some months were we are not re/processing at our full capacity, but that's okay. Science will ultimately drive our reprocessing efforts.

Salomonson showed a poster created by John Townshend that shows the VCC (Vegetative Cover Conversion) product in South America.

Salomonson asked if the Land group will be meeting soon, and Vermote said, yes, they would meet sometime in July 2003. Salomonson asked Conboy about the results of the poll for meeting as the entire MODIS Science Team, and Conboy said that the best time seems to be in late September. Esaias noted that we should have the full first year of 2001 data done by then.

Esaias reported that he went to a briefing on Wednesday (May 14, 2003) on MODIS data use via the NOAA/DOD bent pipe. Apparently MODIS data had a large, positive impact in helping operations during the Iraqi conflict because of its usefulness and because it was processed and disseminated so quickly to users in the field. He noted that the presentation was very nice, and seemed to concentrate on dust clouds, smoke plumes, and ocean features. It was announced that 85% of the government's weather briefings to high-level military commanders made use of MODIS data.

Salomonson announced that the MODIS model (currently in the lobby of NASA GSFC Building 33) would soon be moved to its permanent home in the lobby of Building 32. It has a new case to enclose the model and the accompanying poster describing MODIS science efforts will be moved as well.

2.2 Instrument Status

Xiong reported that last night (May 14, 2003), there was a Terra Deep Space Maneuver (DSM) debrief, and some comparisons were made between MODIS, MISR, and SeaWiFS. Xiong said that he would send out charts on the comparisons soon. All groups representing instruments on the Terra spacecraft attended the debrief. Salomonson noted that MISR and MODIS retrieved lunar irradiance seemed lower than SeaWiFS, and Xiong said yes, but noted that the two instruments (Terra and SeaWiFS) observed the Moon from slightly different phase angles, which may account for some of the difference. He noted that the instruments are coming close to matching considering the uncertainty in each instrument and they continue to work on it. Guenther asked if MISR is calibrated to MODIS, and Esaias said that they are claiming a 5% difference. Xiong said that for lunar calibration data, there is a close match for the four shared wavelengths, near 1 percent. Overall, there is a 2 – 4 percent difference with SeaWiFS that are within the combined uncertainty.

2.2.1 Aqua MODIS

No updates.

2.2.2 Terra MODIS

Xiong reported that both instruments are working fine with a few exceptions. On the Terra instrument, the Solid Diffuser Screen isn't opening as planned during calibration, and they are in the process of troubleshooting to figure out the cause. They've gone

back to the model drawings to try and find clues to the issue, and it will probably be a couple of weeks before they do any tests. The problem has been discussed at the MsWG meetings. They don't want to risk doing damage to the door by trying to force it open, which is why they're taking their time about the tests. They are concerned that if fixing the issue takes more than a month to complete, the issue could start to affect the regular LUT updates that are done every other week.

2.3 DAAC

Kempler reported that the Aqua/Terra processing is moving along, and the Oceans reprocessing also continues. The data are going to MODAPS, and they're doing some tests. The DAAC experienced some mishaps, and got two severity-one trouble tickets, so that will impact data for Land and Atmospheres reprocessing because Oceans is the highest priority.

Kempler also reported that the EMB EMD (Engineering Maintenance and Development) contract was selected for EOSDIS. Raytheon was chosen. Vanessa Griffins has asked the ECS DAACs to organize a list of priorities for EMB.

2.4 MODAPS

Masuoka reported that the EDC has identified the failure of granules to insert into the data servers as one of the top ten problems for the Goddard and other DAACs. He said that he would send a note to Vanessa Griffin on the issue and explain that this issue will start interfering with Land reprocessing after about 30 days. He said that he is not sure where this problem came from, but they still have some time to figure out a solution. Teague said that this only affects the EDC because of AMASS issues.

Masuoka reported that he has sent a series of timelines to the discipline leaders; Aqua reprocessing will start in the fall, and he would also like to see a couple of combined Aqua/Terra reprocessings. He noted that the Land discipline would be holding a team meeting to decide what their reprocessing goals will be. Oceans data could reprocess alone, but that would depend on how long it would take to make and deliver the L1B data. Johnston asked whether the L1B need to be regenerated at all for Terra Collection 5, and Masuoka replied that that is an MCST question, but as for pulling and pushing the data from the archive, it would take the same amount of effort. He said that he is not sure that splitting the work would help. Masuoka suggested that Johnston, Kempler, and he work on determining the benefits of separating Atmospheres and Land reprocessings.

Teague reported on the MODAPS production issues, saying that it has been an unusual few weeks. They've had some problems with the EDC; they can't export data to them at a normal rate, which is affecting Land L2Gs. They took some machines down to purge the database, which will result in improved performance. On the forward stream, they've been 1-4 days behind real time, and right now they are six days behind. The L2Gs are nine days behind on Terra and 10 days behind on Aqua; it will take two weeks to catch up. Masuoka said that he has asked them to focus on catching up with Terra data at the expense of Aqua, since more people rely on Terra data. They are still ahead on the reprocessing schedule, so they've got some slack that they can use for this. Teague continued that they are halfway done (50%) with both Land and Atmospheres reprocessing, Land will finish in late September, and Atmospheres will finish earlier in mid August. As for Oceans reprocessing, a lot of effort has been spent toward preparing

for it, and Teague expressed the opinion that it is going well. They will need to get the RADCOR files from Miami at the end of the month, and then they will go into temporal subset tests. Esaias added that this data set will cover August 2000 through December 2002 data; and currently they are planning on reprocessing the April-August 2000 data at the end of the other data.

Johnston noted that there has been a series of discussions with the DAACs and HQ folks on ocean product validation efforts. Since ocean reprocessing will be performed at a rate of 12x, the DAAC has expressed concerns that people might miss the chance to order data if the data are put into and taken out of the data pool too fast, and so some coordination of subscriptions is needed to make sure that SCFs can receive data at 12x.

2.5 Oceans Discipline

Esaias said that he attended a meeting this morning (May 15, 2003) where the Oceans group were trying to figure out what a major reprocessing might mean for the group, and they came to a conclusion that their data criteria could very well be different from mission criteria (more strict). He said that he is going to try to get a white paper written on that issue in the next couple of months. Salomonson suggested using the Earth Observer for that effort.

2.6 Cryosphere

Hall reported that Cryosphere would release the Aqua snow and ice products as provisional products at the same time the new MOD35_L2 cloud mask is released, on May 23, 2003. With the new cloud mask, the band 6 problem will be resolved in the cloud mask; this will eliminate the striping that was caused by the non-functional band 6 detectors. The new cloud mask uses band 7 instead of band 6.

The provisional versions of the Aqua snow and ice algorithms will still use band 6 as input because of good results achieved with averaging over the non-functional detectors on the L1b data. Preliminary comparisons of the new Aqua snow-cover map with the existing Terra snow-cover map look favorable, but the Level 1b data are not suitable for quantitative use (i.e., calculation of fractional snow cover) because of the missing data from the non-functional detectors. Therefore they will continue work on algorithms for the Aqua MODIS snow and ice products that utilize band 7 instead of band 6.

3.0 Action Items

3.1 New Action Items

None.

3.2 Old Action Items

3.2.1 King and Kempler to work together on getting ESDTs for the new Atmospheres L2 data product.
Status: Open.

3.2.2 Kempler to coordinate with Oceans group on creating documentation for the DAAC on the new Oceans L1A data subsets.
Status: Open.

3.2.3 Wolfe to contact Herring about the shopping cart feature for the Earth Observatory website.
Status: Closed.

3.2.4 Tech Team to further discuss TRW using MODIS data for validation of the NPP/NPOESS production process.
Status: Open.

3.2.5 Johnston to create possible scenarios of when to reprocess Aqua and start Terra Collection 5.
Status: Closed. Johnston presented said scenarios at the May 15, 2003 MTT meeting.

3.2.6 Conboy to poll Science Team for MODIS Science Team Meeting dates in August/September 2003. Responses due to Conboy by April 7, 2003.
Status: Closed. The consensus from the poll is that the best time for a MODIS Science Team Meeting is in late September 2003.